

UCLA Nuclear Physics Seminar

“Jet-medium interactions in dual models”

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Probably the most important experimentally accessible probes of the quark-gluon plasma (QGP) produced in heavy-ion collisions are sprays of energetic particles - jets. The jet evolution in medium involves multiple energetic scales making it difficult to study with any particular theoretical approach. We propose a novel way for hybridizing relevant inputs from perturbative QCD and a strongly coupled holographic gauge theory in the service of modeling jets in QGP. We construct an ensemble of back-to-back dijets to qualitatively study how the shapes of the individual jets and the asymmetry in the energy of the pairs of jets in the ensemble are modified by their passage through an expanding cooling droplet of strongly coupled plasma. Each jet in the ensemble is represented holographically by a string in the dual 5d theory with the distribution of initial energies and opening angles in the ensemble given by perturbative QCD.

Location: Knudsen 4-134

Date: Wednesday, November 29th, 2017

Time: 12:00pm